

What is claimed is:

1. A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism being received within said housing  
5 and for rotating a disc;

an optical pickup mechanism being received within said  
housing and for reproducing or reproducing/recording of  
information on the disc, wherein:

said optical pickup mechanism has an optical pickup and  
10 a driving mechanism for driving said optical pickup in radial  
direction of said disc;

said optical pickup comprises a pickup housing made of metal,  
in which are mounted a laser diode emitting a detection light for  
reproducing or recording the information on said disc, a laser  
driver circuit board for controlling said laser diode, an objective  
lens driver for guiding the detection light emitted from to a  
predetermined position on said disc and for guiding reflection  
light from said disc onto an optical detector, optical parts,  
including a lens, a prism, a mirror therein, and an optical detector  
15 for detecting said detection light; and  
20

said pickup housing mounts said laser diode and said laser  
driver circuit board with connecting them thermally, to be disposed  
in adjacent with each other, while providing a thermal separation  
portion for thermally separating between said laser diode and said  
25 laser driver circuit board.

2. A disc driving apparatus as defined in the claim 1, wherein  
said thermal separation portion comprises a dividing portion formed

with either one of a slit portion or a recess gutter, for dividing said pickup housing disposed between said laser diode and said laser driver circuit board, and a heat separation member disposed in said dividing portion.

5           3. A disc driving apparatus as defined in the claim 2, wherein said pickup housing is made of metal material having good thermal conductivity, including aluminum, magnesium, zinc, and said thermal separation portion is formed by filling resin material into the separation portion of said pickup housing, thereby to  
10 form them in one body.

4. A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism being received within said housing and for rotating a disc;

15 an optical pickup mechanism being received within said housing and for reproducing or reproducing/recording of information on the disc, wherein:

said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in radial  
20 direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting a detection light for use of a CD, so as to reproduce or record the information on said disc, a laser diode for emitting a detection light for use  
25 of a DVD, so as to reproduce or record the information on said disc, a laser driver circuit board for controlling said laser diode for use of the CD, an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector,

optical parts, including a lens, a prism, a mirror therein, and an optical detector for detecting said detection light; and

said pickup housing mounts said laser diode for use of the CD, said laser diode for use of the DVD, said laser driver circuit board and said objective lens driver, with connecting them thermally, wherein said laser diode for use of the CD and said laser driver circuit board are disposed in adjacent with each other, while providing a thermal separation portion for thermally separating between a side of said laser diodes for use of the CD and the DVD and a side of said laser driver circuit board and said objective lens driver.

5. A disc driving apparatus as defined in the claim 4, wherein the prism and the mirror of said optical portions and said optical detector are disposed on a side being nearer to said laser diodes for use of the CD and the DVD than said thermal separation portion.

6. A disc driving apparatus as defined in the claim 4, wherein said thermal separation portion is provided, so as to separate either one of between said laser diode for use of the CD and said laser diode for use of the DVD, and between said laser driver circuit board and said objective lens driver, thermally.

7. A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism being received within said housing and for rotating a disc;

an optical pickup mechanism being received within said housing and for reproducing or reproducing/recording of information on the disc, wherein:

said optical pickup mechanism has an optical pickup and

a driving mechanism for driving said optical pickup in radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting a detection light for use of a CD, so as to reproduce or record the information on said disc, a laser diode for emitting a detection light for use of a DVD, so as to reproduce or record the information on said disc, a laser driver circuit board for controlling said laser diode for use of the CD, an objective lens driver for guiding the detection light emitted to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector, optical parts, including a lens, a prism, a mirror therein, and an optical detector for detecting said detection light; and

said pickup housing is defined by a sidewall formed all around thereof and a bottom wall, and said laser diodes for use of the CD and the DVD, said laser driver circuit board and said objective lens driver are mounted therein, with thermally connecting thereamong, wherein said laser diode for use of the CD and said laser driver circuit board are disposed in adjacent with each other, while providing a thermal separation portion for thermally separating between a side of said laser diodes for use of the CD and the DVD and a side of said laser driver circuit board and said objective lens driver.

8. An optical pickup, comprising:

a laser diode for emitting a detection light, so as to reproduce or record information on a disc;

a laser driver circuit board for controlling said laser diode;

an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding

reflection light from said disc onto an optical detector;

optical parts, including a lens, a prism therein, a mirror therein; and

an optical detector for detecting said detection light;

5 and

a pickup housing made of metal material, in which said above-mentioned are mounted, wherein:

said pickup housing mounts said laser diode and said laser driver circuit board with connecting them thermally, to be disposed  
10 in adjacent with each other, while providing a thermal separation portion for thermally separating between said laser diode and said laser driver circuit board.

9. An optical pickup, comprising:

a laser diode for emitting a detection light, so as to  
15 reproduce or record information on a disc;

a laser driver circuit board for controlling said laser diode;

an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding  
20 reflection light from said disc onto an optical detector;

optical parts, including a lens, a prism therein, a mirror therein; and

an optical detector for detecting said detection light;  
and

25 a pickup housing made of metal material, in which said

above-mentioned are mounted, wherein:

said pickup housing mounts said laser diode for use of the CD, said laser diode for use of the DVD, said laser driver circuit board and said objective lens driver, with connecting them thermally, wherein said laser diode for use of the CD and said laser driver circuit board are disposed in adjacent with each other, while providing a thermal separation portion for thermally separating between a side of said laser diodes for use of the CD and the DVD and a side of said laser driver circuit board and said objective lens driver.